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AN ISO 9001 : 2008 COMPANY &NABL ACCREDITED LABORATORY AS PER ISO/IEC 17025:2005
4, 7TH MAIN MALLESWARAM, BANGALORE -3
Certificate No.: T- 5548

Format No: CP/TF/01

TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID : **CP-2018-03-01-01** **Date: 05-03-18**

Customer : Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.

Address : Yelahanka Sub Division, BBMP, Bangalore.

Project Name : Improvements to roads and drains at Nehru Nagara and surrounding areas in ward no.01 of yelahanka sub division.

Agency : Technical Manager(West), KRIDL, BBMP, Bangalore.

Customer's Reference : BBMP/EE(YNK.D)/W.O/000118/2017-18

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 01-03-18

Sample ID No : 2018-03-01-01 /01

Sample Type : Birla Super 53grade

Reference to BIS codes : IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification ,
IS 4031 (Part 1,2 3,4,5, 6,11):1988
IS 4031 Part 1 DETERMINATION OF FINENESS BY DRY SIEVING, Clause 4.4
IS 4031 Part 2, Determination of Fineness by Blaine Air Permeability Method, Clause 5
IS 4031 Part 3, Determination of Soundness, Clause 5,Clause 6
IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5
IS 4031 Part 5, Determination of Initial & Final Setting Time, Clause 5
IS 4031 Part 11,DETERMINATION OF DENSITY , Clause 6

Date of test : 02-03-18

Environmental Conditions during test : Temperature: 26°C
Humidity: 72%

SLNo.	Physical properties	Results	Requirement as per IS 12269: 2013
1	Fineness by dry sieving (%)	1.47	_
2	Finess by Air permeablity method (m^2/kg,Min)	288.4	225m^2/kg, Min
3	Density (gm/cc)	3.11	_
4	Standard Consistency (%)	28.5%	Not specified
5	Initial Setting time	165 minutes	Not less than 30 minutes
6	Final Setting time	270 minutes	Not more than 600 minutes
7	Soundness (Le Chatelier's Method)	1.5mm	Not more than 10 mm

Note:

The results pertain to the samples received and tested.
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Samples will be disposed after 90 days from the date of issue of test certificate

CIVIL Pro BANGALORE Sig..... Date.....

FOR CIVIL Pro.

R KARTHIK RECHAN
Authorized Signatory
Quality Manager

****End of Report****

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4, 7TH MAIN MALLESWARAM, BANGALORE -3
Certificate No.: T- 5548

Format No: CP/TF/01

TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Date: 30-03-18

Lab ID	:	**CP-2018-03-01-01**
Customer	:	Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
Address	:	Yelahanka Sub Division, BBMP, Bangalore.
Project Name	:	Improvements to roads and drains at Nehru Nagara and surrounding areas in ward no.01 of yelahanka sub division.
Agency	:	Technical Manager(West), KRIDL, BBMP, Bangalore.
Customer's Reference	:	BBMP/EE(YNK.D)/W.O/000118/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	01-03-18
Sample ID No	:	2018-03-01-01 /01
Sample Type	:	Birla Super 53grade
Reference to BIS codes	:	IS 12269 2013, 53 Grade Ordinary Portland cement Specification , IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 6, Determination of Compressive Strength, Clause 6
Date of test	:	02-03-18
Environmental Conditions during test	:	Temperature: 26°C Humidity: 72%

Compressive Strength

Sl.No.	Physical properties	Results	Requirement as per IS 12269: 2013
1	3 Days	28.5N/mm^2	Not less than 27 N/mm^2
2	7 Days	39.0N/mm^2	Not less than 37 N/mm^2
3	28 Days	55.0N/mm^2	Not less than 53 N/mm^2

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TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2018-03-01-01** **Date: 05-03-18**
Customer	:	Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
Address	:	Yelahanka Sub Division, BBMP, Bangalore.
Project Name	:	Improvements to roads and drains at Nehru Nagara and surrounding areas in ward no.01 of yelahanka sub division.
Agency	:	Technical Manager(West), KRIDL, BBMP, Bangalore.
Customer's Reference	:	BBMP/EE(YNK.D)/W.O/000118/2017-18
Source of Sample	:	Sample supplied by Agency
Sample condition	:	Satisfactory
Date of Receipt	:	01-03-18
Sample ID No	:	2018-03-01-01 /02(a)
Sample Type	:	40mm down size coarse aggregate
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2011 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties
Date of test	:	01-03-18

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 40MM DOWN COARSE AGGREGATE:

Total weight taken : 15000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	80 mm	0	0	0.0	100	100
2	40 mm	564	564	3.8	96.2	90-100
3	20 mm	7317	7881	52.5	47.5	30-70
4	10 mm	4926	12807	85.4	14.6	10-35
5	4.75 mm	1966	14773	98.5	1.5	0-5
6	Pan	227	15000	100.0	0	---

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TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2018-03-01-01** **Date: 05-03-18**

Sample ID No : 2018-03-01-01 /02(a)

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	10.3	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	11.2	
3	Specific Gravity	2.62	–
4	Bulk Density(Loose) (Kg/l)	1.48	–
5	Bulk Density(Compacted) (Kg/l)	1.52	–
6	Water Absorption(%)	0.19	–

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Quality Manager

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TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2018-03-01-01** **Date: 05-03-18**
Customer	:	Assistant Executive Engineer, Yelahanka Sub Division, BBMP, Bangalore.
Address	:	Yelahanka Sub Division, BBMP, Bangalore.
Project Name	:	Improvements to roads and drains at Nehru Nagara and surrounding areas in ward no.01 of yelahanka sub division.
Agency	:	Technical Manager(West), KRIDL, BBMP, Bangalore.
Customer Reference	:	BBMP/EE(YNK.D)/W.O/000118/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	01-03-18
Sample ID No	:	2018-03-01-01 /02(b)
Sample Type/ Size	:	20mm down size coarse aggregate
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2011 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties
Date of test	:	01-03-18

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 20MM DOWN COARSE AGGREGATE:

Total weight taken : 5000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	40 mm	0	0	0	100	100
2	20 mm	236	236	4.7	95.3	90-100
3	10 mm	2545	2781	55.6	44.4	25-55
4	4.75 mm	1769	4550	91.0	9.0	0-10
5	Pan	450	5000	100	0	–

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TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2018-03-01-01** **Date: 05-03-18**

Sample ID No : 2018-03-01-01 /02(b)

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	10.8	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	9.4	
3	Specific Gravity	2.63	–
4	Bulk Density(Loose) (Kg/l)	1.5	–
5	Bulk Density(Compacted) (Kg/l)	1.53	–
6	Water Absorption(%)	0.2	–
7	Aggregate crushing Value(%)	24.7	Max 30% for Aggregates to be used in concrete for wearing Surface, In case Aggregate Crushing Value Exceeds 30% then the test for ten percent fines should be conducted for Aggregates to be used in concrete other than for wearing Surface.
8	Aggregate Impact Value(%)	23.3	30% for Aggregates to be used in concrete for wearing Surface, 45% for Aggregates to be used in concrete other than for wearing Surface.

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